

MON. 6 JAN 1908

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 5342

Port of Newcastle Date of First Survey Nov. 2nd Date of Last Survey Dec. 15th No. of Visits 2
 No. in Reg. Book on the Iron or Steel S.S. "CRISPIN" Port belonging to By whom
 Built at Middlesbrough By whom Mr. Raydon Dixon & Co. Ltd. When built 1907
 Owners Booth Steam Shipping Co. Ltd. Owners' Address Liverpool
 Yard No. Electric Light Installation fitted by W. B. Martin & Co. Glasgow When fitted 1907

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single cylinder double acting engine, coupled direct to compound wound Dynamo

Capacity of Dynamo 200 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room Starting Platform Whether single or double wire system is used single Wire

Position of Main Switch Board Starting Platform having switches to groups 9 sections of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Starting recess for Tweendeck 8 = Stokhold 11

Engine room store 10 = Wheelhouse 8 = 1st Mast for clusters 11 = Main mast 11
Saloon entrance 2 = Main mast 11

If cut outs are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch board to the cables of auxiliary circuits yes and at each position where a cable is branched or reduced in size yes and to each lamp circuit yes

If vessel is wired on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Single Wire

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50 % per cent over the normal current

Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 226 arranged in the following groups:— detailed in continuation sheet

A lights each of candle power requiring a total current of Amperes

B lights each of candle power requiring a total current of Amperes

C lights each of candle power requiring a total current of Amperes

D lights each of candle power requiring a total current of Amperes

E lights each of candle power requiring a total current of Amperes

2 Mast head light with 1 lamp each of 32 c. p. candle power requiring a total current of 2.11 Amperes

2 Side light with 1 lamp each of 32 c. p. candle power requiring a total current of 2.11 Amperes

10 Cargo lights of 32 c. p. candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. No Arc Lamps

Where are the switches controlling the masthead and side lights placed Wheelhouse

DESCRIPTION OF CABLES.

Main cable carrying 146 Amperes, comprised of 34 wires, each 14 L.S.G. diameter, .183 square inches total sectional area

Branch cables carrying 44 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .06 square inches total sectional area

Branch cables carrying 18 Amperes, comprised of 19 wires, each 20 L.S.G. diameter, .019 square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .003 square inches total sectional area

Cargo light cables carrying 7 Amperes, comprised of 66 wires, each — L.S.G. diameter, .0124 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

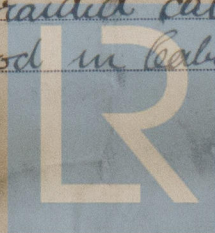
H. C. Tinned copper cable. Rubber insulated 25000 Meghom grade taped, and braided. Enclosed in casing in rooms and sheathed with Lead Steel armour and braid in cargo and engine spaces.

Joints in cables, how made, insulated, and protected Mechanical joints - enclosed in porcelain covers - cased over with iron protections

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage in Tweendeck

Are there any joints in or branches from the cable leading from dynamo to main switch board No

How are the cables led through the ship, and how protected Lead covered armoured & braided cables clipped direct to steel work protected by beams. Cased in wood in cabins



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W442-0144 1/2

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes, except when cargo in tween-deck.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered Armoured & Braided, or drawn into iron tubes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured*

What special protection has been provided for the cables near boiler casings *Armoured*

What special protection has been provided for the cables in engine room *Armoured*

How are cables carried through beams *Fibre bushes in holes* through bulkheads, &c. *Watertight glands*

How are cables carried through decks *metal tubes fitted watertight to decks*

Are any cables run through coal bunkers *no* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *Armoured Lead covered & Braided*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected *Strong iron shutters*

Where are the main switches and cut outs for these lights fitted *Storing Engine Room*

If in the spaces, how are they specially protected *none in cargo spaces*

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *brass plugs*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Gunmetal socket bolted to hull*

How are the returns from the lamps connected to the hull *earthing screws tapped into plate*

Are all the joints with the hull in accessible positions *Yes except when cargo in tween-decks*

The installation is *at present* supplied with a voltmeter and *also with* an amperemeter, fixed *on switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, or joints of cables fitted in the pump room or companion

How are the lamps specially protected in places liable to the accumulation of vapour or gas

The copper used is guaranteed to have a conductivity of *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2,500* megohms per statute mile after 24 hours' immersion in seawater.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

W. C. Martin & Co Electrical Engineers Date *31st Dec 1907*

COMPASSES.

Distance between dynamo or electric motors and standard compass *96 ft.*

Distance between dynamo or electric motors and steering compass *96 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *15* Amperes *10* feet from standard compass *6* feet from steering compass

A cable carrying *6* Amperes *10 to 1* feet from standard compass *10 to 1* feet from steering compass

A cable carrying — Amperes — feet from standard compass — feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *yes*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *a certain* course in the case of the standard compass and *nil* degrees on *the same* course in the case of the steering compass.

For *SID RAYLTON DIXON & COMPANY, LIMITED.*

Builder's Signature. Date

GENERAL REMARKS.

This installation has been fitted under Survey. The materials and workmanship are good. It remains to be seen at work at London. The installation has been tested under working conditions. I. J. Hindley, P.D. Philston, Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that the Record Rec. might be noted in the Reg. Book

6.1.08

Rpt. 9a.

Port of

Continuation of Report No.

dated

on the

Total number of lights provided for 226 arranged in the following groups

A = 24	lights of 16 cp.	11.4 Amperes
B = 25	" " 16 "	15.0 Amps
C = 19	" " 16 & 32 cp.	14.4 "
D = 21	" " 16 cp.	12.6 "
E = 9	" " 16 cp.	5.4 "
F = 24	" " 32 cp.	29 amp.
G = 36	" " 32 cp.	14.4 "
H = 26	" " 16 cp.	25.6 "
I = 42	" " 16 cp.	25 "
<u>226</u>		<u>145.4</u>

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

W942-0144 2/2



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